

Patent Abstracts of Japan

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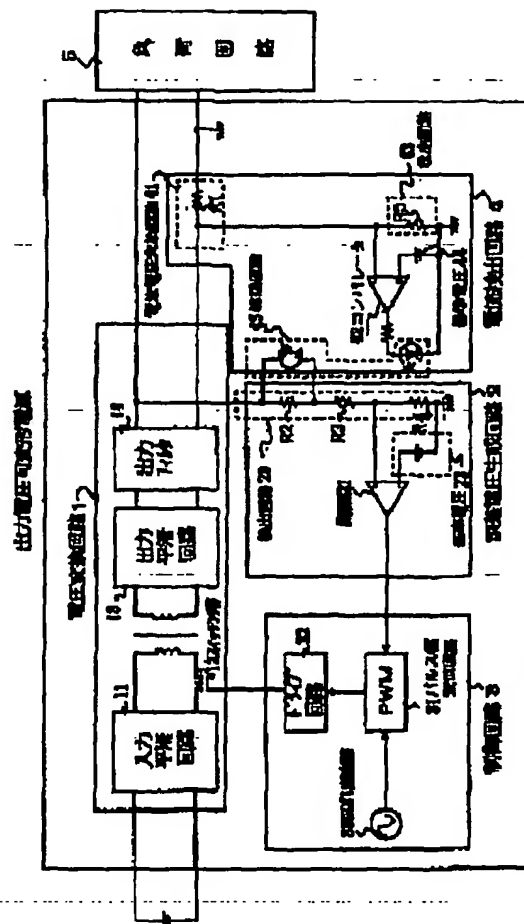
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TITLE : POWER SUPPLY CIRCUIT



ABSTRACT : PROBLEM TO BE SOLVED: To make it possible to prevent an electric shock accident to be caused by carelessly touching any part of human body to the load terminal of a disconnected cable when a power supply is connected to a load with the cable and the like, by controlling an output voltage in such a way that it becomes lower than the original voltage if the disconnection of the connected cable makes a load current zero.

SOLUTION: This power supply circuit is provided with a voltage converting circuit 1 which generates an output voltage, an error-voltage generating circuit 2 which detects the fluctuation of the output voltage, a control circuit 3 which controls the output voltage of the voltage converting circuit 1 to a constant value, based on the error voltage generated by the error-voltage generating circuit 2, and a current detecting circuit 4 which detects the output current of the voltage converting circuit 1. The first three circuits constitute a switching regulator. By controlling the error-voltage generating circuit 2 with the current detecting circuit 4, the output voltage of the voltage converting circuit 1 is variably controlled in such a way that, when the output current is equal to or lower than a threshold, the output voltage is lowered than the original output voltage, and when the output current is larger than the threshold, the output voltage is raised to the original one.

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